

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEBRASKA**

**ANGEL DAWN DIXON, a minor child by)
and through her natural mother and)
MISTY ATKINSON,)**

Plaintiffs,)

vs.)

**CRETE MEDICAL CLINIC, P.C.,)
RUSSELL EBKE, M.D.,)
CITY OF CRETE, NEBRASKA,)
CRETE MUNICIPAL HOSPITAL and)
CRETE AREA MEDICAL CENTER,)**

Defendants.)

8:03CV496

**MEMORANDUM
AND ORDER**

This is an action to determine whether the defendants were negligent during the labor and delivery associated with the birth of Angel Dawn Dixon. The court has jurisdiction pursuant to 28 U.S.C. § 1332, as the plaintiffs were citizens of a different state than the defendants at the time of filing and the amount in controversy exceeds \$75,000. Pursuant to 28 U.S.C. § 636 and the consent of the parties,¹ the matter was tried to the undersigned magistrate judge April 10-14, 2006, and August 16, 2006, whereupon the case was deemed submitted for decision.

BACKGROUND

Angel Dixon was born on May 13, 1998, to Misty Atkinson (Ms. Atkinson). On November 26, 2006, the plaintiffs filed this lawsuit alleging the defendants were negligent during the care of Ms. Atkinson during her pregnancy, labor and delivery. Additionally, the plaintiffs allege the defendants were negligent in their care of Angel Dixon resulting in serious neurological and other injuries. The defendants deny any negligence during the care of the plaintiffs which caused the alleged injuries.

¹On April 28, 2005, United States District Judge Joseph F. Bataillon transferred this matter to the undersigned magistrate judge. **See** Filing No. 99.

Before trial, the plaintiff filed a trial brief (Filing No. 238), a supplemental brief (Filing No. 240) and proposed findings of fact and conclusions of law (Filing No. 239). The defendants jointly filed a trial brief (Filing No. 236) and proposed findings of fact and conclusions of law (Filing No. 237). At the conclusion of the plaintiffs' case-in-chief, the defendants moved for judgment as a matter of law. The court granted the motion with regard to the defendant Bryan LGH Health System, Inc., but took the motion under advisement as to all other defendants and issues. **See** Filing No. 244 (Minute Entry); Trial Transcript (TR.) 565. On April 14, 2006, the trial was recessed and scheduled to resume after certain additional discovery was completed. During the interim, the plaintiffs filed a brief (Filing No. 251) to which the defendants filed a response brief (Filing No. 252) related to the defendants' motion for judgment as a matter of law. Additionally, the plaintiffs filed an Argument Brief (Filing No. 269), which contained revised proposed findings of fact and conclusions of law. The defendants also filed a Closing Brief (Filing No. 268). The trial resumed and concluded on August 16, 2006, after which the matter was deemed submitted.

FINDINGS OF FACT

Based on the evidence presented and pursuant to Fed. R. Civ. P. 52(a), the court makes the following findings of fact:

Ms. Atkinson is Angel Dixon's biological mother (TR. 338). Ms. Atkinson learned she was pregnant on December 1, 1997, when she was fifteen (TR. 344; Ms. Atkinson Depo. p. 7). After learning she was pregnant, she returned to Crete, Nebraska, and made an appointment to see Dr. Ebke for her obstetrical care (TR. 344-345).

Dr. Russell J. Ebke is a physician who graduated from medical school in 1987 (TR. 566-567). Dr. Ebke is licensed to practice medicine in the State of Nebraska and certified by the American Board of Family Practice (TR. 576, 578). After completing a residency in family medicine at the University of Nebraska Affiliated Clinics, Dr. Ebke was a family practice physician, on active duty, in the United States Navy from 1990 until 1995 (TR. 567, 571). Dr. Ebke received obstetrics training in medical school, including the use of a vacuum extractor, and participated in two obstetric rotations (TR. 567-568). As part of his

residency, Dr. Ebke also did a rotation in obstetrics and gynecology and received additional training on the use of a vacuum extractor (TR. 568-569). Dr. Ebke also received training and assisted in performing cesarean deliveries (TR. 570-572). Dr. Ebke estimates he managed three to four deliveries each month while in the Navy and delivered many babies while in residency (TR. 569, 571).

Dr. Ebke began practicing in Crete, Nebraska, in August 1995 (TR. 573). Dr. Ebke is currently working at the Crete Medical Clinic and employed by the Crete Area Medical Center, which at the time of Angel Dixon's birth was the Crete Municipal Hospital (TR. 566, 582). Dr. Ebke currently manages an average of thirty to sixty infant deliveries per year (TR. 584). Dr. Ebke felt comfortable and qualified to treat Ms. Atkinson as a patient throughout the course of her pregnancy (TR. 585). Ms. Atkinson's obstetric conditions were the type Dr. Ebke would regularly encounter in Crete, Nebraska and that he had training and experience in handling (TR. 585).

On December 16, 1997, Dr. Ebke conducted an obstetrical evaluation of Ms. Atkinson (TR. 587; Ex. 104). Since this was the first time Dr. Ebke and Ms. Atkinson had met, Dr. Ebke took a medical history based on information provided by Ms. Atkinson (TR. 588). Ms. Atkinson was fifteen years old, five feet zero inches tall and weighed 142 pounds on December 11, 1997, just prior to her first obstetrical appointment (TR. 374, 586). The medical records indicate Ms. Atkinson weighed 115 pounds pre-pregnancy (TR. 372, 375, 614; Ex. 105 p. 35), however Ms. Atkinson testified she weighed approximately 90 pounds before she became pregnant (TR. 346, 373). Dr. Ebke noted in the medical history form that Ms. Atkinson had previously had urinary tract infections and chlamydia, smoked cigarettes and had used marijuana and crank four months previously (TR. 589, 592; Ex. 104 p. 3). Each of these items were significant for Ms. Atkinson as a pregnant woman and Dr. Ebke planned to follow up with her about them (TR. 590). Ms. Atkinson admits she smoked cigarettes during her pregnancy, but denies ever having used alcohol, marijuana or crank during her pregnancy, even though the medical records indicate otherwise (TR. 342, 345, 346, 375-377; Ex. 105 p. 17 (discharge summary) and p. 37 (obstetric admitting record dated May 12, 1998); Ex. 118 p. 31-32 (medical history with examination dated Oct. 15, 1999). Ms. Atkinson told Dr. Ebke she had no prior pregnancies (TR. 596; Ex. 104 p.

3), however other evidence suggests she underwent one termination of pregnancy in July 1997 (TR. 596, Ex. 105 p. 50-51). During the physical examination, Dr. Ebke determined the bony structure of Ms. Atkinson's pelvis was of adequate size and shape for a vaginal delivery (TR. 601-603; Ex. 104 p. 3-4). Dr. Ebke calculated Ms. Atkinson's estimated delivery date at May 10, 1998, based on the personal history, physical examination and an ultrasound (TR. 598, 605).

During a routine office visit on January 13, 1998, Ms. Atkinson weighed 148 pounds, which did not concern Dr. Ebke (TR. 606; Ex. 104 p. 12). Ms. Atkinson appeared for another routine office visit on February 10, 1998, and had "a little more weight gain" than Dr. Ebke liked to see, Ms. Atkinson weighed 158 pounds, but the examination was otherwise normal (TR. 609; Ex. 104 p. 12). Dr. Ebke testified he would have counseled Ms. Atkinson about her diet (TR. 607, 609).

In April 1998, Ms. Atkinson underwent two non-stress tests due to a couple episodes of vaginal bleeding (TR. 610-611). The non-stress tests indicated fetal well-being (TR. 611, 622, 839; Ex. 105 p. 12, 14). Dr. Ebke recommended continued bed rest for a couple days, in response to the bleeding, and for Ms. Atkinson to monitor the baby's kick count (TR. 611-612). On April 8, 1998, Ms. Atkinson weighed 178 1/2 pounds (TR. 612-613; Ex. 104 p. 12). Dr. Ebke stated that he prefers patients to gain between 25-30 pounds over the course of a pregnancy, but Ms. Atkinson's weight gain was not unusual (TR. 613).

On April 21, 1998, Ms. Atkinson complained of swelling, which is not unusual for a patient who is eight months pregnant, but could be an indication of pregnancy-induced hypertension (PIH) (TR. 615). PIH is a rise in the maternal blood pressure to above 140 over 90, which can lead to problems with placental function, maternal and fetal complications (TR. 615-616). Ms. Atkinson did not exhibit the symptoms for PIH (TR. 616-617). Ms. Atkinson did have significant weight gain, which could be explained, in part, by the swelling (TR. 617-618). Dr. Ebke recommended Ms. Atkinson go to school only half-days and be on bed rest to help with her swelling and blood pressure (TR. 618).

On April 27, 1998, Ms. Atkinson weighed 192 pounds and looked puffy (TR. 619; Ex. 104 p. 9). Dr. Ebke recommended bed rest, even though Ms. Atkinson had no other symptoms indicating PIH (TR. 619-620). Dr. Ebke did follow-up testing for PIH on April 30,

1998, and noted some weight loss with good blood pressure (TR. 620). On May 6, 1998, Ms. Atkinson underwent another non-stress test as a precaution, with normal results (TR. 622, 624; Ex. 105 p. 2). Ms. Atkinson was scheduled to report for cervical ripening and induction of labor on May 12, 1998 (TR. 624, 628; Ex. 105 p. 2). On May 12, 1998, Ms. Atkinson weighed 188 pounds (TR. 346, 373; Ex. 105 p. 35).

Jodell Yank, formerly Sieck, (Nurse Yank) provided care to Ms. Atkinson during her April 1998 non-stress tests and May 12, 1998 hospital admission (TR. 839-841; Ex. 105 p. 12, 14, 35). Nurse Yank is a registered nurse in Nebraska and was first licensed in 1994 (TR. 836, 873). Nurse Yank worked for Crete Municipal Hospital for approximately six years and did so in May 1998 (TR. 837). She was the house supervisor on the evening shift taking care of acute care patients, surgical, emergency room and labor and delivery patients (TR. 837). Nurse Yank received obstetrical education and training and continues to receive periodical continuing medical education to maintain her license (TR. 837-838). Nurse Yank is certified in neonatal resuscitation (TR. 838). Ms. Atkinson told nurse Yank that she had used marijuana, crank, cigarettes and alcohol during her pregnancy (TR. 844-846; Ex. 105 p. 37).

On May 12, 1998, Nurse Yank discussed the labor induction process with Ms. Atkinson during admission (TR. 841). Ms. Atkinson made a request to a nurse for cesarean delivery when she went into the hospital to be induced, "just wanting to get it over with because [she] was really nervous" about the pain associated with a vaginal delivery (TR. 349, 363). Nurse Yank testified that Ms. Atkinson said she wanted a cesarean delivery right when she came in, but that Ms. Atkinson agreed to the trial induction first (TR. 841-842, 882-883). Nurse Yank did not hear any other requests for a cesarean delivery made by Ms. Atkinson or her father (TR. 842). Nurse Yank provided nursing care for Ms. Atkinson from 7:30 a.m. to 3:30 p.m. on May 12, 1998 (TR. 847; Ex. 105 p. 54-57). Nurse Yank also provided care from 3:30 a.m. until 7:00 a.m., and from 2:15 p.m. until approximately 5:00 p.m. on May 13, 1998 (TR. 849-850; Ex. 105 p. 62, 63, 65, 66).

On May 12, 1998, at 8:10 a.m., Dr. Ebke performed a vaginal exam to assess Ms. Atkinson's cervix and had Cytotec administered to prepare Ms. Atkinson's cervix for induction (TR. 977-978, 980). The nursing staff kept Dr. Ebke apprised of Ms. Atkinson's

progression and he reviewed her laboratory results (TR. 978-981). At approximately 1:00 p.m., Dr. Ebke conducted a vaginal exam and found improved cervical ripening (TR. 981-982). At 2:05 p.m., Dr. Ebke checked Ms. Atkinson's progress again, which was normal, and ordered the administration of Pitocin (TR. 982-983). Pitocin is a drug used to induce labor or to enhance a labor pattern (TR. 438). Ms. Atkinson testified she told a nurse she wanted a cesarean delivery after receiving Pitocin, because the contractions were very painful, however Ms. Atkinson's chart indicates she was resting comfortably with mild contractions at a pain level of 4 to 5 out of 10 (TR. 350; Ex. 105 p. 54-56). At 4:50 p.m., Dr. Ebke was given a report of Ms. Atkinson's progress and the Pitocin was turned off so she could rest overnight (TR. 984-985; Ex. 105 p. 58, 106).

On May 13, 1998, at 7:40 a.m., Dr. Ebke conducted a vaginal exam of Ms. Atkinson, noting progress of 3 centimeters dilation and 90% effacement (TR. 989; Ex. 105 p. 62, 107). After, the vaginal examination, Dr. Ebke performed an artificial rupture of membranes by tearing the membranes covering the vaginal vault, this is also known as breaking the bag of waters (TR. 990). At that time, a small amount of clear amniotic fluid was noted, which is preferred to meconium-stained fluid (TR. 991). An internal fetal monitor electrode was attached to the baby's scalp to allow staff to monitor the baby's heart rate (TR. 991). The baby's scalp was massaged with reassuring results of a positive heart rate acceleration (TR. 993). After a discussion with Ms. Atkinson, Dr. Ebke planned to conduct a trial induction of labor, then if labor failed perform a cesarean delivery late in the day (TR. 994; Ex. 105 p. 107). The induction began with the administration of Pitocin at 7:50 a.m. (Ex. 105 p. 62). At 8:00 a.m., Ms. Atkinson requested an epidural for pain relief and epidural was administered at 8:15 a.m. (TR. 998; Ex. 105 p. 62). The amount of Pitocin was increased at 9:00 a.m. (Ex. 105 p. 62). Ms. Atkinson testified she made a request to a nurse for a cesarean delivery after her water broke, because the contractions were worse than the day before, however the charts state only that she requested an epidural, which provided good pain relief so she could doze (TR. 350; Ex. 105 p. 62). Dr. Ebke and Ms. Atkinson did not talk about a cesarean delivery based on Ms. Atkinson's pain levels or requests (TR. 350).

At 10:30 a.m., Dr. Ebke was notified about Ms. Atkinson's progress including the fact that the fetal heart rate was above 160 (TR. 995-996). The fetal heart rate did not concern Dr. Ebke because short-term variability was present, indicating to him that the baby did not suffer from decreased oxygen (TR. 995-996). Additionally, Dr. Ebke learned that Ms. Atkinson was crying and fussy, which indicated maternal anxiety, which could increase the fetal heart rate (TR. 996-997). Because Ms. Atkinson stated the contractions were not going away, the Pitocin was turned off at 10:40 a.m., which would slow the progress of labor (TR. 998-1000; Ex. 105 p. 62, 267). The Pitocin remained off for some time, which is not unusual, to allow Ms. Atkinson to rest (TR. 1000).

At 10:50 a.m. a vaginal exam showed Ms. Atkinson progressed to 4 centimeters dilation (TR. 105 p. 62). Additional pain medication was administered and the Pitocin was turned on at 11:15 a.m. and increased at 11:30 a.m. (TR. 105 p. 62). On May 13, 2006, at 11:40 a.m., Ms. Atkinson was crying and told Lori Jerina (Nurse Jerina) "I can't do this anymore" (TR. 756; Ex. 105 p. 62). Nurse Jerina is a registered nurse, who graduated with a Bachelor of Science in Nursing in 1986 (TR. 745). Nurse Jerina worked in Illinois as a nurse in the intensive care unit and in the labor and delivery unit, each for approximately five years before returning to Crete (TR. 746). Nurse Jerina received training and education for labor and delivery nursing while in Illinois and continues such training and education to maintain her licensing (TR. 746). Nurse Jerina is licensed in the State of Nebraska as a nurse, and has certification in neonatal resuscitation (TR. 747). Nurse Jerina also took an advanced fetal monitoring course (TR. 747). If a patient requests a cesarean delivery, it is Nurse Jerina's policy to document the request and alert the physician (TR. 756).

Nurse Jerina worked as a staff nurse at Crete Municipal Hospital in May 1998, although she currently works for Crete Area Medical Center. Filing No. 227, p. 4 (Jerina Depo.). On May 12, 1998, Nurse Jerina provided care to Ms. Atkinson starting from 3:30 p.m. until approximately 10:00 p.m. (TR. 751; Ex. 105 p. 54-59). Additionally, on May 13, 2006, Nurse Jerina provided care to Ms. Atkinson from approximately 7:00 a.m. until 10:00 a.m. (TR. 753; Ex. 105 p. 62-63).

Nurse Jerina also noted the fetal heart monitor showed the baby's heart rate "remained tachycardic" at 11:50 a.m. because the rate was in the 160s (TR. 755; Ex. 105 p. 62, 64). Nurse Jerina was trained that she should not call the physician merely because the heart rate was between 160 and 170, but also look at other factors (TR. 755). At noon, the Pitocin was turned off (TR. 755; Ex. 105 p. 64).

At 12:15 p.m., Dr. Ebke was given a progress report including information about Ms. Atkinson's dysfunctional labor pattern, which means the character of the contractions, and the fetal heart rate (TR. 1001). Nurse Jerina noted a "dysfunctional labor pattern" at that time because it was difficult to manage Ms. Atkinson's labor because the Pitocin had been turned off and on (TR. 756-757). At 12:55 p.m., Dr. Ebke came in to assess the clinical situation including reviewing the fetal heart rate monitor strips (TR. 1003). Dr. Ebke noted the character of the contractions were periodically frequent and the pressure did not return to zero between contractions (TR. 1001-1002, 1004; Ex. 105 p. 107). At that time, Dr. Ebke did not make any alterations in the labor plan, but wanted to administer more fluids and have Ms. Atkinson attempt position changes to improve the labor functionality and fetal heart rate (TR. 1003, 1005). Dr. Ebke recognized the overall clinical picture with maternal anxiety, yet with reassuring fetal heart rate variability indicating normal interplay between the sympathetic and the parasympathetic nervous system and oxygenation (TR. 1006-1009). Although, Nurse Jerina noted some questionable decelerations on the fetal heart monitor strip, she did not interpret that to mean there was necessarily a problem with the baby (TR. 757). Variability is noted on the chart by the use of a plus, when the variability is good (TR. 758; Ex. 105 p. 63-64). For each 15-minute increment from noon until 2:00 p.m., Nurse Jerina noted seven periods with good variability, both short term and long term (TR. 758; Ex. 105 p. 64). However, Nurse Jerina noted questionable late decelerations at 11:45 a.m. and at 2:00 p.m. (TR. 769; Ex. 105 p. 64). A late deceleration may be caused by uteroplacental insufficiency, epidural placement, maternal movement or fluid shifts (TR. 769, 771-772). The cause in a particular case must be determined by the fetal heart monitor strip as a whole, for example whether the deceleration persists (TR. 771-772). Uteroplacental insufficiency is a lack of blood and oxygen flow to the baby (TR. 772). Nurse Jerina conducted vaginal exams from noon until 2:00 p.m. and noted Ms. Atkinson

was 100% effaced and dilation progressed from five centimeters to six centimeters from noon until 1:30 p.m. (TR. 759; Ex. 105 p. 64).

At 2:00 p.m., the nursing staff notified Dr. Ebke that Ms. Atkinson was more comfortable and contractions were spaced about five minutes apart (TR. 1014). Dr. Ebke gave the order to re-start the Pitocin at a low level (TR. 1014; Ex. 105 p. 110). Turning Pitocin off and on would affect all aspects of the labor process (TR. 1013). Dr. Ebke was not concerned with the baby staying at the same station for a period of time because of the changes with Pitocin (TR. 1013). The baby's descent improved when the Pitocin was on (TR. 1018). Similarly, the same was true for the dilation progress (TR. 1017). Dr. Ebke would have been concerned if effective contractions were not without cervical progress (TR. 1017).

During her shifts, Nurse Yank recorded variability on Ms. Atkinson's labor progress chart based on the fetal heart rate monitor (TR. 850-851; Ex. 105 p. 67). Nurse Yank noted there was positive short-term variability and average to increased long-term variability from 2:30 p.m. until birth on May 13, 1998 (TR. 851; Ex. 105 p. 67). Nurse Yank noted Angel Dixon's baseline heart rate was up to between 165 to 170 during one fifteen minute period, but such elevation resolved itself and did not warrant contacting the physician, particularly because the variability was good (TR. 852-853). Nurse Yank testified the nursing staff was watching the heart rate monitor almost continuously and would summarize each fifteen minutes for the chart (TR. 853). Nurse Yank conducted vaginal exams of Ms. Atkinson and noted that at 2:30 p.m. Ms. Atkinson's cervix was dilated to six centimeters and 100% effaced and that the baby was at a minus one station (TR. 853). At 3:30 p.m., Ms. Atkinson's cervix was completely dilated and the baby progressed to a plus one station (TR. 854). Nurse Yank determined Ms. Atkinson had "very good progression" of labor from 2:30 p.m. onward (TR. 854). At no time while Nurse Yank was providing nursing care to Ms. Atkinson did Nurse Yank feel there was a need to contact Dr. Ebke or the hospital chain of command in order to execute a cesarean delivery (TR. 854, 873). During the transition and pushing phase of labor, a time of heightened anxiety, Nurse Yank heard Ms. Atkinson say "I can't do this. Just take it out" (TR. 351, 842, 856-857; Ex. 105 p. 66). Ms. Atkinson testified she experienced severe pain during labor and delivery, which caused her

to scream, cry and swear (TR. 363). At that time, the nurses gave Ms. Atkinson encouragement and instructions about how to push effectively (Ex. 105 p. 66).

At 3:34 p.m., Dr. Ebke was contacted because Ms. Atkinson had complete cervical dilation (TR. 1015-1016). Dr. Ebke did not feel Ms. Atkinson had a protracted labor pattern (TR. 1017). Dr. Ebke was not concerned about a condition called cephalopelvic disproportion (CPD) because of the labor progress and his earlier physical exam of Ms. Atkinson (TR. 1020). CPD is a mismatch between the baby's head size and the maternal pelvis; that is, there is not adequate room for the head to descend safely through the pelvis (TR. 427).

Dr. Ebke was present in the room from 3:58 p.m. through delivery (TR. 1022). At 4:50 p.m., Dr. Ebke applied the vacuum extractor because the baby's head was in a low position and Ms. Atkinson had stopped pushing effectively and was anxious to complete the delivery (TR. 1026; Ex. 105 p. 66, 99). Nurse Yank assisted Dr. Ebke in using the vacuum extractor (TR. 859). Nurse Yank saw Angel Dixon's head crowning and the proper placement of the vacuum extractor on the midline of her head (TR. 859-860). Nurse Jerina observed the baby's head crowning prior to Dr. Ebke placing the vacuum extractor (TR. 760-761). After placement and at the beginning of a contraction, Dr. Ebke instructed Nurse Yank to pump up the pressure on the vacuum extractor (TR. 860). Nurse Yank pumped the pressure until the pressure gauge was at the minimum amount of pressure within the green (safe) zone (TR. 860-861). Nurse Yank saw Dr. Ebke apply a very slow gentle pressure with the vacuum extractor to assist Ms. Atkinson's pushing contraction (TR. 861-862). Dr. Ebke typically, places the vacuum extractor and attempts one gentle pull with a contraction to assess the likely success of the procedure before cutting an episiotomy (TR. 1028). However, in this case, the baby's head was delivered with the first gentle pull (TR. 1028-1029). Nurses Yank and Jerina saw meconium as Dr. Ebke suctioned Angel Dixon's mouth and nose, before the baby's body was delivered (TR. 761, 862-863). Meconium is a product of the baby's bowels and commonly seen during deliveries (TR. 862-863).

Dr. Ebke suctioned the baby's nose and mouth before the remainder of the baby's body was delivered (TR. 1030). At that time, there was some difficulty delivering the baby's body and the nursing staff was directed to perform the McRobert's maneuver, which means

the mother's knees are pulled back toward her chest (TR. 863, 1031). The McRobert's maneuver causes the pelvis to rotate forward and increases the space between the pubic symphysis and the sacrum to ease the baby's shoulders out (TR. 1031). Dr. Ebke also performed an episiotomy and had the nursing staff apply some pressure to Ms. Atkinson's pubic symphysis to aid delivery (TR. 1031). Failure of the baby's body to deliver spontaneously does not mean Ms. Atkinson had CPD (TR. 1031).

After Angel Dixon was born, she had difficulty breathing and because of the meconium present at birth Dr. Ebke used a device to clear her throat below the vocal chords (TR. 1116-1117). The first pass revealed meconium, but a second pass was clear of meconium (TR. 1117). Dr. Ebke used a bag-valve-mask device to push oxygen into Angel Dixon's lungs to establish adequate ventilation, however Angel Dixon was breathing on her own and was stable (TR. 1118-1119). Nurse Jerina was present in the delivery room with the primary responsibility to assist with the baby (TR. 759-760).

An Apgar score is an evaluation of the baby, at one minute after birth, by assessing the baby's heart rate, respiration, reflex, muscle tone and coloring (TR. 1119; Ex. 105 p. 70). The baby is given a score, from zero to ten, every five minutes thereafter until she reaches a score of seven (TR. 1120). Angel Dixon had a one-minute Apgar score of three, which is not unusual with meconium aspiration (TR. 1120; Ex. 105 p. 70). Angel Dixon had a five-minute Apgar score of seven which is considered normal (TR. 1120; Ex. 105 p. 70). Dr. Ebke and Nurse Yank concurred on Angel Dixon's Apgar scores (TR. 869-870).

Angel Dixon was given "blow by oxygen" to provide enriched oxygen (TR. 1121). Angel Dixon was wheeled to the nursery in the baby warmer (TR. 1122). After Dr. Ebke completed post-delivery care for Ms. Atkinson he assessed the status of Angel Dixon (TR. 1126). Angel Dixon had episodes of rapid breathing and paleness, so Dr. Ebke attempted to place an umbilical catheter for fluids and took an x-ray (TR. 1126-1127). Dr. Ebke determined the best course of action, based on Angel Dixon's breathing and the fact there was meconium below her vocal chords, was to move Angel Dixon to St. Elizabeth's Hospital to provide a higher level of care (TR. 1127-1128).

After the labor, Nurse Yank was responsible for sending Ms. Atkinson's placenta to the laboratory (TR. 869). Nurse Yank noted the placenta was abnormal because it was

small with a small diameter umbilical cord (TR. 869; Ex. 105 p. 70). Nurse Yank noted “trauma” during the delivery based on Angel Dixon’s caput, which Nurse Yank felt was larger than normal, but not alarming (TR. 870-870). A large caput is sometimes seen with a first-time mother (TR. 871). Angel Dixon had a large caput at the time of birth (TR. 429-430; Ex. 105 p. 70). A caput is the swelling of the soft tissues of the scalp during a vaginal delivery (TR. 673). A large caput means the baby’s head is changed by the forces of labor coming through the birth canal that there is a large amount of molding (TR. 430). Molding is the overlapping of the skull bones in the baby’s head during a vaginal delivery (TR. 672-673). Molding and caput are normal for a baby of a first-time mother (TR. 431, 673). A large caput is consistent with CPD (TR. 431).

Angel Dixon was delivered at 4:54 p.m. (TR. 429; Ex. 105 p. 70). Angel Dixon weighed six pounds, six ounces at birth (TR. 366; Ex. 105 p. 70). Ms. Atkinson has had two children, both delivered vaginally, since Angel Dixon was born (TR. 365-368). Ms. Atkinson testified she did not request a cesarean delivery for either child because she was in less pain than with Angel Dixon’s delivery (TR. 368-369).

Dr. Michael S. Cardwell, an obstetrician-gynecologist and perinatology specialist, testified on behalf of the plaintiffs (TR. 413-414). Perinatology is maternal-fetal medicine related to high-risk pregnancies (TR. 415). The standard of care with respect to the practice of obstetrics is the same standard throughout the United States (TR. 420). It is a national standard because the same teaching materials, including textbooks, journals and medical meetings, are used throughout the United States (TR. 421). Dr. Cardwell reviewed the medical records, including prenatal records, the interpartum records and assorted records for Angel Dixon after delivery, the fetal heart rate tracings and various depositions (TR. 423-424).

Dr. Cardwell testified Ms. Atkinson had a protracted active phase of labor because although she had adequate uterine contractions, her cervix was slow to dilate (TR. 427). Specifically, around the noon hour on May 13, 1998, Ms. Atkinson’s cervix was dilated to five centimeters, approximately two centimeters greater than the dilation at 10:00 a.m. (TR. 427). The active phase of labor is defined as active, regular contractions and the cervix dilated to four centimeters (TR. 426). Thereafter, the cervix is expected to increase, on

average, by one centimeter per hour until delivery (TR. 437, 491). Dr. Cardwell testified a protracted active phase is compatible with CPD (TR. 427-428). At about the same time, the fetal heart rate strip began to show a non-reassuring heart rate pattern (TR. 428). The fetal heart rate strip showed tachycardia and a decreased variability around 12:30 (TR. 428). Dr. Cardwell gave his opinion that Ms. Atkinson should have had a cesarean delivery at that time because it was medically indicated (TR. 428). In contrast, an elective cesarean is a cesarean delivery without a medical indication (TR. 438-439).

Fetal tachycardia is a fetal heart rate baseline above 170 beats per minute (TR. 432, 676). The normal range for fetal heart rate baseline is between 110 and 160 beats per minute (TR. 432). At a range above 170 is a mild tachycardia, however over 180 or 200, sever tachycardia, would raise alarm (TR. 676, 741). Fetal tachycardia may be caused by several different reasons, including early hypoxia, which is low blood oxygen delivery to the baby, maternal tachycardia, or maternal fever or infection (TR. 434, 676, 741-742, 1062). The baby's heart rate increases to compensate for low blood oxygen to provide more oxygen to its tissues and organs (TR. 434). A decrease in variability indicates the baby began to decompensate (TR. 434). Between 12:00 p.m. and the time of delivery, Angel Dixon's heart rate was 160 to 170 beats per minute with minimal variability according to Dr. Cardwell (TR. 433-434, 456-462; Ex. 10-A and 10-B; Ex. 105).

The descent of a baby through the birth canal is described by the baby's station (TR. 435). The ischial spines, at the mid-part of the pelvis is considered zero station, while every centimeter above is a minus and every centimeter below is a plus (TR. 435). For example, the baby's head would be crowning, that is the crown of the head showing, at plus five centimeters (TR. 435, 932). Poor descent of the baby during labor may indicate CPD (TR. 436).

On May 13, 1998, Ms. Atkinson entered the active stage of labor, with her cervix dilated to 4 centimeters, at approximately 10:30 a.m. (TR. 436; Ex. 9). In just over three hours Ms. Atkinson's had dilated to six centimeters (TR. 437; Ex. 9). Accordingly, Ms. Atkinson's labor was considered protracted compared to the average labor of a first-time mother (TR. 437; compare Ms. Atkinson's labor curve to labor curve for nulliparous in Ex.

9). The baby's station remained the same, at minus one, during the active stage of labor and made a slow descent at the end of labor, which is consistent with CPD (TR. 438).

Dr. Cardwell gave his opinion that Dr. Ebke violated the standard of care for obstetrics causing injury and damage to Angel Dixon (TR. 441). Specifically, Dr. Cardwell testified Dr. Ebke violated the standard of care when he: (1) failed to consider or act on Ms. Atkinson's request for a cesarean delivery; (2) failed to recognize a protracted active phase of labor, slow descent of the baby and non-reassuring fetal heart rate indicated a cesarean delivery at approximately 12:55 p.m.; and (3) attempted a vacuum delivery, which under the circumstances was counter-indicated because a cesarean delivery was indicated (TR. 442-443, 488). It is Dr. Cardwell's opinion that the protracted active phase mismanagement and the use of the vacuum extractor to deliver the baby caused the baby trauma and hypoxia (TR. 443). Dr. Cardwell testified Dr. Ebke should have performed the cesarean delivery at approximately 1:00 p.m. and had Dr. Ebke done so Angel Dixon would not have suffered the injuries (TR. 444). The vacuum extractor applied two forces to the baby's head, one from the vacuum extractor itself and the other from forcing the baby's head through the pelvis (TR. 445). Dr. Cardwell stated that if the cesarean delivery had taken place at any time prior to the vacuum extractor delivery, Angel Dixon would have avoided her injuries (TR. 490). However, a baby may suffer a skull fracture during the birthing process without a surgical intervention, or with the use of a vacuum extractor for delivery, even when the physician is meeting the standard of care (TR. 490).

Dr. Cardwell also testified Dr. Ebke violated the standard of care by failing to call a pediatrician to attend to Angel Dixon because of the non-reassuring fetal heart rate strip and because meconium was present at the time of delivery (TR. 445-446). Similarly, if the nurse handling the baby after delivery is certified in neonatal resuscitation and neonatal care, such nurse would be sufficiently qualified to take care of the newborn (TR. 491).

Dr. Cardwell testified the hospital, through its agents and nurses, violated the standard of care and caused injury to Angel Dixon by not recognizing and acting accordingly upon a protracted active phase and non-reassuring fetal heart rate strip (TR. 448-449; 467). It is the duty of the labor and delivery nurses to follow the patient's labor pattern and read and interpret fetal heart monitor strips, to recognize abnormalities and to

act accordingly (TR. 449). Dr. Cardwell testified the nurses should have recognized the protracted active phase of labor, between 12:30 and 1:00 p.m., and alerted the physician or, if the physician did not perform a cesarean delivery, alerted the physician's chain of command (TR. 449, 471). Additionally, Dr. Cardwell opined the nurses should have recognized the non-reassuring fetal heart rate after 12:55 p.m., instituted in utero-resuscitative maneuvers, which may include turning off the Pitocin, then notified the physician or, if the physician did not perform a cesarean delivery, alerted the physician's chain of command (TR. 449-450). Pitocin used to encourage labor and an epidural used to control pain can affect the fetal heart rate (TR. 464).

Dr. Cardwell testified the nursing staff has a duty to notify the physician about a patient's request for a cesarean delivery (TR. 451). The physician then must explain the risks, benefits and alternatives (TR. 451). If the patient still desires a cesarean the physician must either perform a cesarean or seek a substitute physician (TR. 451). There is no evidence in the record the nursing staff informed Dr. Ebke that Ms. Atkinson requested a cesarean delivery (TR. 451-453).

Dr. Abraham Scheer, who has been a physician since 1980, is a pediatric and adult neurologist and a psychiatrist for children and adolescents (TR. 45). Dr. Scheer is a licensed physician in the State of Nebraska, who has a private practice and has been employed as the neurological consultant for the Lincoln Regional Center (TR. 48-49). Dr. Scheer testified as Angel Dixon's treating physician and as an expert witness.

Dr. Scheer conducted a neonatal neurological examination of Angel Dixon on May 15, 1998 (TR. 50-51; Ex. 47). During the exam, Dr. Scheer noted Angel Dixon's face was swollen and bruised (TR. 52). Dr. Scheer also reviewed Angel Dixon's admission notes, a neurosurgical consultation report by Dr. Benjamin Gelber (Dr. Gelber) and other medical records (TR. 53, 68; Ex. 25, p. 61-62, 101-102). The May 13, 1998 admission notes, written by Dr. Coady, revealed Angel Dixon's head circumference was normal, 35 centimeters, but she had probably aspirated meconium and should stay in the neonatal intensive-care unit (NICU) for observation (TR. 57-58). On May 14, 1998, Dr. Coady noted Angel Dixon's head circumference increased by .5 and she had multiple apneic episodes, requiring resuscitation (TR. 59-61; Ex. 25 p. 63-64). Dr. Coady ordered additional testing

and treated Angel Dixon for seizures (TR. 61). Dr. Coady's initial impressions were meconium aspiration; seizures; cephalohematoma; and maternal drug use during early pregnancy (Ex. 25 p. 63-64). On May 15, 1998, Dr. Gelber examined Angel Dixon (Ex. 25 p. 101). Based on information that Angel Dixon's blood gas pH was 7.21 shortly after birth, Dr. Gelber determined she probably lost oxygen to the brain, called hypoxic encephalopathy (TR. 63; Ex. 25 p. 101). Dr. Gelber also noted Angel Dixon "apparently has had a compressive force applied to the head, producing the overriding of the occipital bone and hemorrhage of the intrahemispheric fissure" (Ex. 25 p. 101). Dr. Gelber concluded there was no need for neurosurgical intervention and that the occipital bone would "probably mold itself into place and probably will not require surgical elevation" (Ex. 25 p. 102).

Based on Dr. Scheer's examination and record review, Dr. Scheer noted that a head fracture may have caused Angel Dixon's seizures (TR. 66). Dr. Scheer also noted Angel Dixon was "not fixing and following" and was "very, very floppy" like a rag doll (TR. 68-69). Dr. Scheer determined such behavior may have been caused by the anti-convulsive medication, due to a lack of oxygen to the brain, or due to meconium aspiration (TR. 69, 71). Upon review of Angel Dixon's fetal heart monitor strips, Dr. Scheer noted Angel Dixon's heart rate went above 160 beats per minute, or tachycardia, and determined Angel Dixon suffered some oxygen deprivation at that time which caused the heart to beat more quickly than normal (TR. 82-83, 86-87). Dr. Scheer continued to monitor Angel Dixon's progress on a daily basis, while she was in the NICU, and conducted follow-up testing (TR. 88). Dr. Scheer eliminated many possible causes of Angel Dixon's problems including meningitis and maternal drug use (TR. 89-91; 120-122).

Dr. Scheer conducted an examination of Angel Dixon on July 16, 1998 (TR. 94). Angel Dixon was still experiencing seizures and taking anti-convulsive medication (TR. 94). An MRI of Angel Dixon's brain revealed brain damage, specifically an atrophy, or brain shrinkage, to the right cerebral hemisphere consistent with a lack of oxygen (TR. 96, 119; Ex. 34-45). This type of atrophy is permanent (TR. 116).

On April 28, 1999, Dr. Scheer examined Angel Dixon and observed she had difficulty moving the right side of her body, specifically left hemiparesis and a left cortical thumb and

decreased sensation on the left side (TR. 123-124). Such condition is consistent with damage on the right side of the brain (TR. 124). Angel Dixon's MRI scans were consistent with the earlier diagnosis and showing the left side of her brain getting a little larger while the right side of the brain exhibits atrophy and hygromas, which are fluid filled areas (TR. 112, 126-129; Ex. 27-32). Dr. Scheer concluded Angel Dixon has cerebral palsy, a permanent condition which is a stable neurological deficit occurring before age two (TR. 129, 238).

On June 1, 2000, after an examination, Dr. Scheer noted Angel Dixon was severely microcephalic (TR. 130-131; Ex. 47 p. 23). Microcephaly means the patient has a small head, which usually indicates developmental problems and mental retardation (TR. 131). Microcephaly can be caused by genetic problems, hypoxic ischemia, anatomical problems, metabolic acidosis and maternal drug use (TR. 182-183). Dr. Scheer testified Angel Dixon may have had a brain infarct, or stroke, which was not ruled out as a cause of her microcephaly (Dr. Scheer Depo. p. 73-74). On November 6, 2000, Dr. Scheer confirmed Angel Dixon was diagnosed with microcephaly and her head circumference was below two standard deviations under the mean (TR. 133, 135-137; Ex. 47 p. 25; Ex. 47G).

Meconium aspiration can occur during delivery even with the best medical care (TR. 181). Meconium aspiration is a possible cause of hypoxia or poor oxygenation (TR. 178). Hypoxia can cause brain damage (TR. 178). Hypoxia can occur even with the best medical care (TR. 181). Additionally, brain damage may result in infants delivered by young mothers, mothers who use drugs and alcohol, and mothers who have risks for genetic problems (TR. 179).

Dr. Scheer opined that a suction force pulling the baby out of the birth canal caused Angel Dixon's "tiny" skull fracture at the time of delivery based on Dr. Gelber's description of the overriding sutures (TR. 168-169, 182). Dr. Scheer opines Angel Dixon's mental retardation is a direct result of the birthing process as well as the trauma she received and hypoxic-ischemic encephalopathy, or loss of oxygen to the brain (TR. 167). This trauma also caused Angel Dixon to become Microcephalic beginning at about two months of age (TR. 172). Dr. Scheer bases his opinion, in part, on the change in Angel Dixon's head circumference at the time of birth compared to later measurements and the timing of the

onset of seizures (TR. 167, 170). Further, Dr. Scheer opines Angel Dixon's hemiparesis was caused by the birthing process (TR. 170-171). Dr. Scheer gave the opinion that had Angel Dixon been delivered by cesarean delivery, she would have a normal head size and normal growth and development (TR. 168).

Martha Graf (Nurse Graf) is a registered nurse who testified as an expert on behalf of the defendants. Nurse Graf is licensed in Nebraska and in Washington (TR. 891). Nurse Graf graduated from college in 1978 and started working in obstetrics in San Francisco at a high-risk level-three hospital (TR. 891; Ex. 128 - Curriculum Vitae). Subsequently, Nurse Graf obtained a master's degree as a clinical nurse specialist in high-risk obstetrics and clinical education (TR. 891). Nurse Graf teaches fetal monitoring and high-risk obstetrics around the country (TR. 891). While in Nebraska, Nurse Graf worked as a labor and delivery nurse at Methodist Hospital and did outreach training in rural Nebraska settings (TR. 896-897). Nurse Graf is certified through the National Certification Corporation in inpatient obstetrics, maternal/newborn, with an additional credential in fetal monitoring (TR. 891-892). Nurse Graf undergoes ongoing education for updates on the technology and research (TR. 892-893). Nurse Graf has assisted in 2,000 to 3,000 births during her career (TR. 915).

In preparation of giving her opinion in this case, Nurse Graf reviewed medical records and deposition testimony of several witnesses. In Nurse Graf's opinion the nursing staff, which provided labor and delivery care to Ms. Atkinson performed within their scope of practice and met the standard of care for nursing (TR. 901). Nurse Graf described long-term heart rate variability and specifically stated the fetal heart rate monitor allows the nursing staff to see a snap shot of the oxygen status of the baby at any given time (TR. 903). Moderate variability, which indicates that the brain stem is well oxygenated, results in at least a 6 beat up to a 25 beat difference from the top to the bottom of the variability waves (TR. 904). Minimal variability, 5 beats or less, lasting longer than 40 minutes should concern the nursing staff (TR. 904-905). Additionally, marked variability is that above 25 beats and frequently occurs on a short-term basis during the pushing stage of labor (TR. 905). Short-term variability describes the beat to beat variability, which is either present or absent (TR. 948-949).

The nursing staff also watches the fetal heart rate, which if it increases above 160 for less than ten minutes is called an acceleration and may be due to a number of factors including maternal temperature, activity and stress (TR. 906). If the heart rate is above 160 beats for more than ten minutes it is considered tachycardia and the mother's temperature and stress level should be checked along with fetal movement (TR. 906-907). A rate around 180 to 200 creates more concern about the baby's condition (TR. 907). Nurse Graf reviewed the fetal heart monitor strips from Angel Dixon's delivery and observed overall moderate variability from 12:20 p.m. to birth (TR. 907). However, Nurse Graf noted periods of each minimal, moderate and marked variability (TR. 909). Although there were periods of time where the baby's heart rate was above 160, Nurse Graf did not see any areas for concern because the periods were short-lived and explainable based on the total clinical picture, for example Ms. Atkinson had an elevated temperature or was anxious (TR. 909-910, 917-918). In this case, the nursing staff noted questionable decelerations, however such decelerations, which are a slowing of the fetal heart rate, were not a cause for concern due to the good variation and the entire clinical picture (TR. 911). After examining the fetal heart monitor strips, Nurse Graf agrees with how the nursing staff charted the results on Ms. Atkinson's labor chart (TR. 913-914, 916-917; Ex. 105 p. 62, 64-69). Nurse Graf also examined Ms. Atkinson's dilation duration and station information forming the basis of the Friedman labor curve (TR. 920). A Friedman labor curve is used to plot the progression of labor compared to the typical labor pattern for a mother with the same number of deliveries (TR. 1068; Ex. 148). Nurse Graf testified Ms. Atkinson's labor was of less duration than average for a first-time mother and showed no areas of concern, which she described as a two-hour period with no progress (TR. 919-921; Ex. 148).

Nurse Graf testified that the period of labor and delivery when the mother's cervix is dilating between 8 and 10 centimeters is when mothers generally makes comments about their inability to continue due to pain intensity, tiredness, anxiety and fear (TR. 915-916). During this transition phase, the nursing staff should offer the mother reassurance by providing moral support and pain alleviation (TR. 916). Nurse Graf found no indication in the medical records that the nursing staff should have suggested to Dr. Ebke the need for a cesarean delivery, or to invoke the hospital's chain of command (TR. 922-923).

Further, Nurse Graf testified the nursing care with regard to the pressure used for the vacuum extractor and placement of the vacuum extractor was within the standard of care (TR. 923-925). Nurse Graf also testified the hospital staff would be acting within the standard of care to have one person in the delivery room who is certified in neonatal resuscitation to care for the baby (TR. 926).

Dr. James Elston, a obstetrician-gynecologist emeritus, has been practicing medicine in Omaha, Nebraska for 42 years, but had retired approximately a year and a half before trial (TR. 635, 642-643). The American College of Obstetrics and Gynecology (ACOG) certified Dr. Elston in 1966 (TR. 636). Dr. Elston has been licensed to practice medicine in Nebraska since 1959 (TR. 640). Dr. Elston has education, training and experience, as well as educates and trains others, in the care and evaluation of obstetrical patients, including vaginal and cesarean deliveries (TR. 641-642). Such experience and training extends to diagnosing CPD and the use of vacuum extractors (TR. 642-642; 650-651). Dr. Elston also assisted with the training of family practice physicians in the field of obstetrics (TR. 646). Dr. Elston estimates he delivered four to five thousand babies, or at least 150 per year during the active part of his practice (TR. 644). Dr. Elston has testified as an expert witness five or six times and reviews three or four cases per year (TR. 645). Dr. Elston is familiar with the standard of care for obstetricians and family practice physicians providing obstetrical care in Nebraska (TR. 647; 652). Dr. Elston has had training and experience with reviewing and interpreting fetal heart monitor strips (TR. 647-648). Dr. Elston has trained medical students and nurses in the use and interpretation of fetal heart monitor strips (TR. 648-649). Dr. Elston is also familiar with the chain of command in the hospital setting and when nurses are supposed to use it (TR. 649-650).

In forming his expert opinions for this case, Dr. Elston reviewed the medical records and deposition transcripts (TR. 655). Dr. Elston testified that Dr. Ebke and the nurses met the applicable standards of care throughout the labor and delivery for Ms. Atkinson and Angel Dixon (TR. 662). Further, it is Dr. Elston's opinion that Angel Dixon's injuries were not caused by any negligent conduct on the part of Dr. Ebke or the nurses (TR. 663). Dr. Elston opines that Angel Dixon did not suffer from anoxia, because the cord ph was normal, the five minute Apgar was normal and the problem did not involve multiple organs (TR.

663). Dr. Elston reviewed the fetal heart monitor strips, but did not find anything of concern (TR. 663). Dr. Elston testified that in his opinion Angel Dixon's injuries were caused in the first few months of pregnancy or are related to her genetic constitution (TR. 663).

With regard to the fetal heart monitor strips, the term variability means the beat to beat change in the heart rate of the fetus (TR. 665; 1056). There is long-term variability and short-term variability based on the acceleration or deceleration of the heart rate over the course of a number of cycles per minute (TR. 665). Overall, the presence of long-term variability helps to determine potential problems. The normal type of long-term variability is from two to three cycles per minute up to six cycles per minute (TR. 669). Variability shows the neurosystem is responding and is intact (TR. 667). The heart rate of the fetus is affected by a number of factors including medications, maternal contractions and inactivity, like sleeping (TR. 665, 666, 668). If there is no variability, the baby should be stimulated with, for example, the use of fluids, changing the mother's position, stopping the Pitocin, or scalp stimulation (TR. 669). Dr. Elston described the risks associated with a cesarean delivery and why such risks should be evaluated with the benefits in the individual case (TR. 670-671). However, if the fetal heart monitor strips indicate no variability over time, a cesarean delivery may be indicated. With only scattered decreases in variability, the patient should be monitored (TR. 671).

Dr. Elston reviewed Angel Dixon's fetal heart monitor strips, but did not see any long periods of "no variability" which indicated a red flag (TR. 670, 674; Ex. 105 p. 274-305). Dr. Elston testified the heart rate monitor strip exhibited good and moderate variability over the course the delivery (TR. 677-696; Ex. 105 p. 274-305). Dr. Elston noted that during some periods where the baby's heart rate was elevated, Ms. Atkinson's heart rate was also elevated as was Ms. Atkinson's blood pressure which indicated maternal anxiety (TR. 680, 741-742). Dr. Elston opined the fetal heart rate was within normal limits throughout the delivery and did not indicate the baby was in any jeopardy (TR. 696). Dr. Elston opined that Dr. Ebke and the nursing staff appropriately, within the standard of care, interpreted the fetal heart monitor strips, in terms of variability, for Angel Dixon (TR. 703-708; Ex. 105 p. 63-64, 67). Further, Dr. Elston determined Dr. Ebke and the nursing staff had no duty to perform a cesarean delivery or contact the hospital chain of command (TR. 705, 708).

The hospital meets the standard of care when there is an appropriately qualified and trained nurse in the room and at least one obstetrical care nurse is certified in neonatal resuscitation (TR. 651, 714).

Dr. Elston testified that Ms. Atkinson did not have a protracted labor because Ms. Atkinson's labor was much shorter than a physician would expect in a nulliparous patient with an epidural (TR. 698). The average length of time for the first stage of labor for a primigravida is between twelve and twenty hours (TR. 698). Dr. Elston places Ms. Atkinson's beginning of labor at 8:00 or 9:00 a.m. until she reaches 4 centimeters dilation at 11:00 a.m. (TR. 698-699). Ms. Atkinson went into the active stage of labor at around 11:00 a.m. until around 3:45 p.m., which is short for a primigravida (TR. 699). Ms. Atkinson dilated from 4 centimeters to 10 centimeters in under five hours, which is acceptable progression (TR. 700-701). Although Ms. Atkinson was dilated to six centimeters for nearly an hour, the slowing of her labor can be explained by the use of the epidural medication and stopping Pitocin (TR. 701-702). Additionally, from 3:45 p.m., when Ms. Atkinson was fully dilated until delivery was one hour and twenty minutes, well short of average, which is two to three hours for a primigravida with an epidural (TR. 700). Dr. Elston did not find any reason indicating Ms. Atkinson should have had a cesarean delivery on May 13, 1998 (TR. 702). Further, failure to perform a cesarean delivery did not breach the standard of care in treating Ms. Atkinson or Angel Dixon (TR. 703, 716-718).

In Dr. Elston's opinion, Dr. Ebke's timing of the use of the vacuum extractor was appropriate under the circumstances (TR. 710). Specifically, since the mother was complaining of considerable discomfort, was tired and the baby was at a plus three or plus four station (TR. 710-711). However, Dr. Elston did not see any fetal distress, bleeding or other emergency situation (TR. 711).

Based on the mother's medical history and the medical records in this case, Dr. Elston did not see any indication that Ms. Atkinson had CPD (TR. 711-712). Similarly, Dr. Elston saw that Ms. Atkinson suffered from a vaginal wall laceration (TR. 713). Such injury was not due to CPD, but likely related to a primigravida delivery (TR. 713). A vaginal wall laceration is caused when a woman's vaginal tissue is thin and inelastic, which may change over time with additional pregnancies and become more elastic (TR. 713).

Hypoxia is a lack of oxygen or low oxygen level to the fetus (TR. 714). The level of oxygen may be affected by, for example, a problem with the umbilical cord or the placenta (TR. 714). Angel Dixon had normal blood gases at birth and did not show signs of hypoxia (TR. 714). Specifically, the ACOG guidelines indicate hypoxia related to cerebral palsy for an infant with a cord pH below seven, Apgar scores below 3, multiple organ involvement and neurological problems with convulsions (TR. 715). Angle Dixon had a cord pH above 7, a five minute Apgar score of 7 and did not have multiple organ involvement (TR. 715).

Dr. Michael Levine (Dr. Levine), a maternal-fetal medicine specialist at Methodist Hospital since 1983, testified as an expert witness on behalf of the defendants (TR. 1032-1033; Ex. 125 - Curriculum Vitae). Maternal-fetal medicine is a subspecialty of obstetrics which deals with problem pregnancies, both maternal and fetal (TR. 1033). Dr. Levine is board certified in obstetrics and gynecology and certified by the National Certification Corporation for reading and interpreting fetal monitoring strips (TR. 1044). Dr. Levine teaches and practices maternal-fetal medicine, including diagnosis, recommendations and indications for vaginal, cesarean and vacuum extractor deliveries and interpretation of fetal heart monitor strips (TR. 1040-1042). Dr. Levine estimates he has been involved in an average of 100 to 120 deliveries a year (TR. 1048).

In preparation for this testimony, Dr. Levine reviewed the medical records from Dr. Ebke's clinic, the labor and delivery records from the Crete Municipal Hospital, the fetal heart monitoring strips, the transport log and information from the expert witnesses and physicians who took care of the baby at St. Elizabeth Hospital (TR. 1048). Dr. Levine gave his opinion that Dr. Ebke and the nursing staff met the standard of care in the treatment of both Ms. Atkinson and Angel Dixon during the prenatal course, during labor and delivery, the delivery with vacuum extractor, and resuscitation after meconium aspiration (TR. 1052-1053).

Dr. Levine reviewed Angel Dixon's heart monitor strips and found each of minimal, marked and moderate long-term variability present (TR. 1058-1060; Ex. 105 p. 274-305). Dr. Levine determined the majority of the monitoring strips showed moderate variability which is the ideal situation (TR. 1057, 1059). Dr. Levine testified he would see this type of monitor strip on a regular basis with an induced delivery without any concern (TR. 1060).

Dr. Levine did not see any portion of the strip which would indicate a cesarean delivery was necessary (TR. 1060). Dr. Levine testified Angel Dixon's heart rate, although showing some periods of mild tachycardia, did not give him any alarm (TR. 1062-1063). Dr. Levine described how fetal hypoxia would manifest in the fetal heart rate monitor strips, specifically showing minimal to non-existent variability, late decelerations that are repetitive and continuous, and significant variable decelerations (i.e., one to two minutes) in the heart rate with slow return to baseline (TR. 1082-1083). Dr. Levine did not see problematic patterns in Angel Dixon's heart rate monitor strips (TR. 1082). Although Angel Dixon suffered mild tachycardia, the fetal heart monitor strips viewed as a whole do not indicate a problem (TR. 1105, 1109).

Dr. Levine testified Ms. Atkinson's labor, with regard to dilation, progressed normally as he would expect with the changes in Pitocin, specifically going through a slowing period when the Pitocin was turned off (TR. 1070-1071; Ex. 148). It is normal to turn off or adjust the Pitocin level for a number of medical reasons for either the mother or the baby (TR. 1067-1068). Further, Ms. Atkinson progressed very well when the Pitocin was reinstated (TR. 1064-1067, 1071). Similarly, the baby's station, or progression down the birth canal was affected by the strength of contractions and use of Pitocin (TR. 1072; Ex. 105 p. 65). Dr. Levine explained how he would assess CPD and testified that if the baby's station remained at a zero during the pushing stage of labor, then there may be CPD (TR. 1078-1081). Given the entire clinical picture, Dr. Levine might describe Ms. Atkinson's labor as prolonged, due to the intermittent use of Pitocin, but not protracted (TR. 1074). Based on the review of the heart rate, variability, labor progression based on dilation and the baby's station, Dr. Levine gave the opinion that at no time did the standard of care require Dr. Ebke to perform a cesarean delivery or for the nursing staff indicate to Dr. Ebke or the hospital chain of command that a cesarean delivery was necessary (TR. 1074). Dr. Levine found no contraindications for a vaginal delivery for Ms. Atkinson and, under the circumstances, a cesarean delivery was not an alternative to the induction (TR. 1077, 1100). Dr. Levine determined maternal exhaustion indicated the use of the vacuum extractor in this case and used the vacuum extractor appropriately within the standard of

care (TR. 1083-1084). Dr. Levine testified Angel Dixon's caput was not abnormal and there was no evidence of extreme molding (TR. 1084-1086).

Dr. John MacDonald is a pediatric neurologist at the Minneapolis Clinic of Neurology in Golden Valley, Minnesota (TR. 775). Dr. MacDonald had been board certified in child neurology by the American Board of Neurology since 1980 and practicing child neurology since 1977 (TR. 776; Ex. 127 - curriculum vitae). Dr. MacDonald practices to diagnosis and treat neurological problems in pediatric patients (TR. 779). Dr. MacDonald also attempts to determine the cause of the neurological problems in his patients (TR. 779). To give expert testimony in this case, Dr. MacDonald reviewed the medical records including pre-natal through on going treatment for Angel Dixon, expert reports and the depositions of several witnesses, treating physicians and expert witnesses (TR. 783-784).

It is Dr. MacDonald's opinion that none of the labor and delivery care rendered to Ms. Atkinson or Angel Dixon contributed at all to Angel Dixon's current neurological problems (TR. 786). Dr. MacDonald testified pre-natal drug use, especially in the first trimester of pregnancy when the brain is evolving, sets the baby up for long-term problems (TR. 788-789). Dr. MacDonald's review of the records in this case indicates Angel Dixon was exposed to chemicals which are shown to damage the brain (TR. 788). Additionally, Dr. MacDonald is concerned about an illness Ms. Atkinson had just prior to delivery because although it was treated, it may have been a viral illness (TR. 789-790). A variety of viruses can cause damage to the baby or exacerbate an underlying disorder (TR. 790). Further, based on the spinal fluid analysis, Dr. MacDonald found evidence that Angel Dixon did have an infection of the nervous system (TR. 791). Specifically, the analysis done on May 14, 1998, showed an increased white blood cell count of 101 in the spinal fluid (TR. 791-192). Dr. MacDonald might normally expect a count around 20 to 25, but above 30 is a serious concern (TR. 279). Angel Dixon was administered with antibiotics to treat bacterial infection, but a viral infection cannot be treated (TR. 792). The spinal fluid analysis also showed protein and glucose in the high normal range (TR. 792). A second spinal fluid analysis on May 26, 1998, showed the white cell count at eight, which is normal (TR. 792). Another test conducted, a CRP, used to look for infection, showed white blood cell counts rising significantly a couple days after birth, then slowing decreasing (TR. 792).

In addition to these tests, seizures may be a sign of meningitis and encephalitis, irritation of the brain (TR. 791). Under these circumstances, Dr. MacDonald presumes an enteroviral infection (TR. 791). Such a viral encephalitic illness has been associated with chronic brain damage (TR. 791). Infection may also cause blood clotting (TR. 801).

Dr. MacDonald also described blood coagulation disorders which, particularly at the end of pregnancy when a mother is normally hypercoaguable, cause devastating problems including stroke (TR. 794, 800-801). A stroke is when a focal area of the brain is deprived of oxygen, glucose and blood flow (TR. 796). In young children, newborns, and neonates a stroke may be caused by infection or genetic, metabolic or coagulation disorders (TR. 796-797). These strokes are responsible for a growing segment of cerebral palsy and neurological damage in children that was previously unexplained (TR. 797). Dr. MacDonald has several patients where the mother had a blood coagulation disorders and the baby presented with a stroke and seizures (TR. 795-796).

Dr. MacDonald is concerned Angel Dixon had a stroke-like event in the day or two before birth, then another in 2003 (TR. 794-795, 802-803, 808-810; Ex. 102 p. 16). Such a stroke may cause focal neurological symptoms, on one side of the brain, like in this case (TR. 794). Dr. MacDonald testified the MRI taken of Angel Dixon at two months of age and her left side and motor skills are consistent with his conclusions (TR. 796, 803; 108 p. 377). The July 16, 1998 MRI report states Angel Dixon has chronic ischemic changes, which means a stroke-like pattern by a cause not recent in time (TR. 803). An early CT scan will not show evidence of a stroke (TR. 801). Dr. MacDonald noted the medical history of Mr. Atkinson and of Ms. Atkinson show the use of blood thinners, which indicate a coagulation disorder (TR. 798). Similarly Ms. Atkinson's history of miscarriages is consistent with a coagulation disorder (TR. 798).

Combining the evidence of an illness before labor, the spinal fluid analysis, and Angel Dixon's other biochemical changes after birth, Dr. MacDonald opines that a viral infection was either a major cause or contributing factor to cause chronic brain damage (TR. 793). Additionally, the existence of an infection combined with normal pregnancy hypercoagulation and a family history of hypercoagulation makes the risk of stroke before labor and delivery quite high (TR. 801). Further, Dr. MacDonald explained that an injury

due to hypoxia, or hypoxic-ischemic encephalopathy, would be global in nature affecting blood flow to both sides of the brain rather than a focal point like a stroke (TR. 806-807). Because hypoxic-ischemic encephalopathy is an insult to the total brain, afflicted patients realize motor disorder to all four limbs (TR. 812). Dr. MacDonald described the possible causes for microcephaly and why the labor and delivery process in this case did not cause Angle Dixon to have a small head size (TR. 813-815). Dr. MacDonald also explained that skull fractures are fairly common during delivery and, although they may cause seizures, a fracture is a non-event from a neurological perspective (TR. 816-817).

Dr. Gerald Bradley Schaefer (Dr. Schaefer) is a physician who testified as an expert on behalf of the defendants. Dr. Schaefer graduated from medical school in 1982 and later engaged in a pediatric residency and fellowships in genetics and pediatric genetics, endocrinology and metabolism (Ex. 126 - Curriculum Vitae). Currently, Dr. Schaefer works at the Nebraska Medical Center as a professor of pediatrics, Director for the Center for Human Genetics and Associate Director for the Institute for Genetics and Rehabilitation. Dr. Schaefer is licenced to practice medicine in Nebraska and is board certified as a clinical geneticist and in pediatrics and pediatric endocrinology. Dr. Schaefer consults with referral patients, teaches and does research in the area of genetics and endocrinology. Dr. Schaefer focuses his research in neuro-genetics, which are genetic conditions which affect the brain, and he determines specific causes of neurological problems. As part of his teaching and clinical practice, Dr. Schaefer counsels others regarding cerebral palsy and its causes. Dr. Schaefer is not involved in the treatment of patients.

In preparation of giving his opinion in this case, Dr. Schaefer reviewed medical records and deposition and trial testimony of several witnesses. Dr. Schaefer conducted an independent medical examination of Angel Dixon and had blood samples analyzed for both Angel Dixon and Ms. Atkinson. Dr. Schaefer had heard of Dr. Ebke, professionally, before being involved in this matter, but had never met him. Dr. Schaefer authored two reports (Ex. 133 and 154) and provided the laboratory test results (Ex. 155). In Dr. Schaefer's opinion the neurologic problems suffered by Angel Dixon are not due to pregnancy and delivery management, but to a combination of genetic and environmental factors which include: (1) prenatal exposure to multiple teratogens; (2) two specific genetic

mutations; and (3) a family medical history of particular physiological problems (Ex. 154). Dr. Schaefer based his opinions primarily on the laboratory test results and information about Ms. Atkinson or found in the medical records for Ms. Atkinson and Angel Dixon. Of particular importance was information that Ms. Atkinson has had three or more miscarriages and may suffer from a blood clotting disorder, the placenta was abnormal, and neuroimaging studies show Angel Dixon suffered a vascular disruption or stroke around the time of birth.

Dr. Terry Winkler, a physician since 1988 who specializes in physical medicine and rehabilitation, testified about a life care plan he developed for Angel Dixon (TR. 223). Among other certifications, Dr. Winkler is certified as a Life Care Planner (TR. 233). A Life Care Plan pulls together all aspects of a disabled person's treatment plan including rehabilitation, medical interventions and medications and is designed to increase or maintain the individual's level of function for as long as possible and to prevent complications associated with the particular disability (TR. 227). Dr. Winkler is in private practice where he develops life care plans for patients and is able to modify the plans over time to accommodate the patient (TR. 228-229). In contrast, a life care plan, such as the one for Angel Dixon, was a one-time opportunity for Dr. Winkler to make recommendations for care, including costs for therapies, medications and equipment, for Angel Dixon over her lifetime (TR. 228, 244). Based on Dr. Winkler's experience, education, training and evaluation of Angel Dixon's injuries and personal circumstances, he projects the total cost for services, equipment, medical care and attention over her lifetime is \$12,109,328 (TR. 241, 290; **see generally** TR. 234-289; Ex. 75-D). Over \$10,000,000 is set aside for supportive services, which includes assistance with all of Angel Dixon's daily living such as a twenty-four hour nursing and a personal care attendant to enable Angel Dixon to live independently (TR. 296-298).

Alfred J. Marchisio, Jr. is a vocational rehabilitation counselor and consultant (TR. 545). Mr. Marchisio is certified by the Nebraska Workers' Compensation Court as a vocational rehabilitation counselor and a job placement specialist (TR. 546). Mr. Marchisio works to return a disabled or injured person to gainful employment or assist a younger person to enter the work force and has done so since 1972 (TR. 546). Mr. Marchisio

prepared a vocational assessment for Angel Dixon based on her medical, personal and education history (TR. 547-548). Mr. Marchisio opines that because of the impairments Angel Dixon experienced at the time of her birth, she is, and will continue to be, unemployable despite educational services (TR. 548).

Dr. Jerome F. Sherman has a Ph.D. in business administration in which the main areas of focus were finance, quantitative economics and microeconomics (TR. 533-534). Dr. Sherman testified Angel Dixon had a work life expectancy of 43.6 years, but is now unemployable and will have no earnings (TR. 534-536). Dr. Sherman assumed Angel Dixon would have gotten a high school diploma or GED (TR. 537). Dr. Sherman testified Angel Dixon suffered an economic loss in the amount of \$1,295,267, based on median income female earners (TR. 536-537).

CONCLUSIONS OF LAW

This case is brought under the Nebraska Hospital-Medical Liability Act (Liability Act), Neb. Rev. Stat §§ 44-2801 to 44-2855 and the Nebraska Political Subdivisions Tort Claims Act (Claims Act), Neb. Rev. Stat. §§ 13-901 to 13-926. The defendants were qualified and covered under the Liability Act and the Claims Act at all times material to this action. Therefore, under the doctrine of vicarious liability, Dr. Ebke's and the nurses' actions can be imputed to the Hospital as their employer. There is no dispute that the plaintiffs' causes of action fall within the Liability Act.

In a medical malpractice action, the plaintiff bears the burden of proof to demonstrate the generally recognized medical standard of care, that there was a deviation from that standard, and that the deviation was the proximate cause of the plaintiff's injuries. ***McLaughlin v. Hellbusch***, 591 N.W.2d 569, 572 (Neb. 1999). The applicable standard of care is described in the Liability Act as follows:

Malpractice or professional negligence shall mean that, in rendering professional services, a health care provider has failed to use the ordinary and reasonable care, skill, and knowledge ordinarily possessed and used under like circumstances by members of his profession engaged in a similar practice in his or in similar localities. In determining what constitutes reasonable and ordinary care, skill, and

diligence on the part of a health care provider in a particular community, the test shall be that which health care providers, in the same community or in similar communities and engaged in the same or similar lines of work, would ordinarily exercise and devote to the benefit of their patients under like circumstances.

Neb. Stat. Rev. § 44-2810.

The plaintiffs allege Dr. Ebke breached the applicable standard of care when he: (1) failed to consider or act on Ms. Atkinson's request for a cesarean delivery; (2) failed to recognize a protracted active phase of labor, slow descent of the baby and non-reassuring fetal heart rate indicated a cesarean delivery at approximately 12:55 p.m.; and (3) attempted a vacuum delivery, rather than cesarean. Additionally, the plaintiffs allege the hospital through its agents, the nursing staff, breached the applicable standard of care by not recognizing a protracted active phase of labor and the non-reassuring fetal heart rate strip and either notifying Dr. Ebke of the necessity of a cesarean delivery or contacting the hospital's chain of command. The court finds the plaintiffs have failed to establish by a preponderance of the evidence that the applicable standards of care were breached proximately causing injury to the plaintiffs.²

The court finds Dr. Ebke and the nursing staff did not breach the standard of care with regard to any request for a cesarean delivery by Ms. Atkinson. The record reflects she asked about a cesarean delivery on May 12, 1998, before the induction began, but that after a discussion with the nursing staff and Dr. Ebke agreed to the ripening procedure and induction, with a cesarean delivery the next day if the induction failed. There is no credible evidence Ms. Atkinson or her father requested a cesarean delivery thereafter. Ms. Atkinson's discomfort during labor, yelling, cursing and other comments about not being able to continue do not constitute a request for cesarean delivery given Ms. Atkinson's earlier agreement to the induction and vaginal delivery. Further, if Ms. Atkinson's comments during high periods of stress were meant as a request for a cesarean delivery she did not persist in those intentions during periods of relatively lower stress or after coaching by the

²To the extent the plaintiffs alleged additional breaches of the standard of care prior to trial (PTO - Filing No. 232), they did not persist in those allegations at trial.

nursing staff. Finally, any error in failing to comply with a request from Ms. Atkinson to perform a cesarean delivery was not the proximate cause of the plaintiffs' injuries.

The court finds Dr. Ebke and the nursing staff did not breach the standard of care by failing to recognize a cesarean delivery was medically indicated by Ms. Atkinson's labor pattern and fetal distress. The court finds the plaintiffs' expert opinions are lacking in foundation with regard to Ms. Atkinson's labor pattern. Dr. Ebke and the nursing staff closely monitored Ms. Atkinson's labor progress and noted the length of labor, descent of the baby and fetal heart rates were impacted by the entire clinical picture including the starting and stopping of Pitocin, maternal stress and use of pain medications. In addition, Ms. Atkinson's labor was not unusual as compared to other first-time mothers under the circumstances. Ms. Atkinson and Angel Dixon's conditions during labor did not indicate a cesarean delivery was required under the applicable standard of care at approximately 12:55 p.m. or at any other time on May 12 or May 13, 1998. The monitoring of Ms. Atkinson and Angel Dixon show patterns within the normal ranges under the circumstances. Finally, any error in failing to perform a cesarean delivery up until the time of birth was not the proximate cause of the plaintiffs' injuries.

For the same reasons, Dr. Ebke did not breach the applicable standard of care by performing a vacuum delivery, rather than a cesarean delivery. The clinical situation as a whole for Ms. Atkinson and Angel Dixon did not dictate a cesarean delivery was the only course of action under the circumstances to meet the standard of care. A cesarean delivery was not medically indicated by the length of labor, descent of the baby, fetal heart rates, fetal condition known to the care givers or maternal condition. In this regard, the court credits and believes the testimony of the defendants' witnesses and expert witnesses over the plaintiffs' witnesses, where the witnesses were inconsistent. Further, the plaintiffs fail to establish Dr. Ebke's use of the vacuum extractor breached the standard of care. The evidence indicates Dr. Ebke and the nursing staff placed and utilized the vacuum extractor within the standard of care to assist the vaginal birth of Angel Dixon.

The plaintiffs allege Dr. Ebke violated the standard of care by failing to call a pediatrician to attend to Angel Dixon because of the non-reassuring fetal heart rate strip and because meconium was present at the time of delivery. However, the plaintiffs' expert

admitted that if the nurse handling the baby after delivery was certified in neonatal resuscitation and neonatal care, such nurse would be sufficiently qualified to take care of the newborn (TR. 491). In this case, the nursing staff was sufficiently qualified to provide the care required under the circumstances. Accordingly, the plaintiffs fail to establish a breach of the standard of care for failure to call a pediatrician.

In sum, the court finds the plaintiffs have failed to establish by a preponderance of the evidence that they sustained any injuries due to a breach of the standard of care by the defendants. Furthermore, the court credits and believes the testimony of the defendants' witnesses and expert witnesses about the nature and causes of Angel Dixon's injuries. Rather than injuries caused by the care received during labor and delivery, Angel Dixon's injuries were more likely than not caused by other environmental and genetic factors. Upon consideration,

IT IS ORDERED:

1. Judgment will be granted in favor of the defendants against the plaintiffs on all of the plaintiffs' claims.
2. The defendants' oral motions for judgment as a matter of law are denied, as moot.

DATED this 20th day of September, 2006.

BY THE COURT:

s/Thomas D. Thalken
United States Magistrate Judge